Australian experiences in community-based prevention

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Información seminario obesidad infantil / Information workshop on infant obesity

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Outline

Objective: To provide a brief history leading to, and update on, current community based approaches to obesity prevention in Australia.

- Where we’ve come from
- Thinking in systems
- Current applications
- Current approach
- Taster of one significant element of approach
- Extensions from here
Barwon-South Western region

Regional population ~300,000

Geelong population ~200,000
Measurements

Components: Anthropometry, behaviours, environments

Intervention groups: Impact of interventions, sustainability, population reach

Regional sample: Comparison sample with intervention population, monitoring trends.
Logic model for interventions

MODERATORS

Ethnicity, socio-cultural factors, gender, age, SES

INDIVIDUAL MEDIATORS

Δ Knowledge, attitudes, beliefs, perceptions etc

INPUTS

Intervention Dose\(^1\)

Δ Community capacity\(^2\)

Δ Environments\(^3\)

Δ Behaviours

Δ Policy

POPULATION MEDIATORS

Δ Environments\(^3\)

OUTCOMES

Δ Anthropometry\(^4\)

Δ QoL

Δ QALYs gained

\(^1\) Intervention dose is either 1 or 0 (intervention, control) or $$ (economic input – all schools)

\(^2\) Capacity is leadership, skills/knowledge, structures, resources

\(^3\) Relevant environments are schools, homes, neighbourhoods, churches

\(^4\) Weight, BMI, BMI-z, waist, waist:height, %fat, prevalence of o/w+obesity

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Under 5s – Romp n Chomp
Relative reduction of 1.8 and 2.7 %-points over 3 years (p<0.05)
Low budget ($100k over 3y) for 12,000 children
Changes in behaviours and environments
State prevalence ↓ing
De Silva-Sanigorski Am J Clin Nutr 2010

Primary School - Be Active Eat Well
Reduction of ~1kg, 3cm waist over 3y
Greater effect in lower SES children
No differences in ‘safety measures’ eg self-esteem, dieting under-weigl
Sustainability currently being evaluated
Sanigorski et al Int J Obesity 2008

- 5.8 %-points lower relative prevalence over 3 years
- Changes in community capacity
- Changes in school envs
- Few significant changes in behaviours seen
Community capacity and obesity prevention

Unit change (shaded) in Community Readiness to Change from baseline to follow-up

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Obesity is simple

Positive energy balance

• More energy is taken in than is spent, causing an excess of energy which is converted into fat
<table>
<thead>
<tr>
<th>Programme name; country</th>
<th>Levels of action</th>
<th>Sectors involved</th>
<th>System recognition</th>
<th>Capacity building</th>
<th>Local creativity</th>
<th>Relationships</th>
<th>Community engagement</th>
<th>Communication</th>
<th>Embeddedness &amp; sustainability</th>
<th>Robustness &amp; sustainability</th>
<th>Facilitative leadership</th>
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<tbody>
<tr>
<td>OBESITY</td>
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<tr>
<td>Romp &amp; Chomp, Australia</td>
<td>Individual Family School Community PH policy</td>
<td>Numerous local authorities, state authorities, primary and secondary schools, community agencies and families – see individual interventions for details</td>
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<tr>
<td>Be Active, Eat Well; Australia</td>
<td>Individual Family School Community Comm.</td>
<td>Children, Parents, Teachers, School food service providers, City department, Policy makers, Restaurants, Media Joseph A. Curtatone, the new Mayor of Somerville, and Lawrence S. Bacow, the President of Tufts University</td>
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<td>Shape Up Somerville: Eat Smart, Play Hard; USA</td>
<td>Individual Family School Comm.</td>
<td>Healthcare providers, Before- and after-school programs</td>
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<tr>
<td>Healthy Living, Cambridge Kids; USA</td>
<td>Individual Family School Community PH policy</td>
<td>Cambridge Public Schools (CPS) Cambridge SchoolsCommittee Cambridge City Institute for Community Health School Heath Cambridge Public Health Department Parents of children attending schools Researchers Later expanded to include: CitySprouts (gardening organisation) Cambridge Department of Human Service Programs Cambridge Green Streets Initiative Federation of Massachusetts Farmers’ Markets</td>
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<tr>
<td>Steps to a Healthier Yuma County; USA</td>
<td>Individual Family School Community PH policy</td>
<td>Yuma County Public Health Services Community Nutrition Arizona Nutrition Network Women Infants and Children program, Health District</td>
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A system is an interconnected set of elements that is coherently organized in a way that achieves something. (Meadows 2008)

[A system] perspective stresses the importance, among other things, of linkages, relationships, feedback loops and interactions among the system’s parts. (Hawe 2009)
### WHO chronic disease

<table>
<thead>
<tr>
<th>UNDERLYING SOCIOECONOMIC, CULTURAL, POLITICAL AND ENVIRONMENTAL DETERMINANTS</th>
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<tbody>
<tr>
<td>Globalization</td>
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<td>Urbanization</td>
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<td>Population ageing</td>
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<table>
<thead>
<tr>
<th>COMMON MODIFIABLE RISK FACTORS</th>
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<tr>
<td>Unhealthy diet</td>
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<tr>
<td>Physical inactivity</td>
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<tr>
<td>Tobacco use</td>
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<table>
<thead>
<tr>
<th>NON-MODIFIABLE RISK FACTORS</th>
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<tr>
<td>Age</td>
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<tr>
<td>Heredity</td>
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<tr>
<th>INTERMEDIATE RISK FACTORS</th>
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<tr>
<td>Raised blood pressure</td>
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<tr>
<td>Raised blood glucose</td>
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<tr>
<td>Abnormal blood lipids</td>
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<tr>
<td>Overweight/obesity</td>
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<tr>
<th>MAIN CHRONIC DISEASES</th>
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<td>Heart disease</td>
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<tr>
<td>Stroke</td>
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<tr>
<td>Cancer</td>
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<tr>
<td>Chronic respiratory diseases</td>
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<tr>
<td>Diabetes</td>
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</tbody>
</table>
System building blocks and change process

- Leadership & governance
- Information & intelligence
- Workforce development
- Partnerships & networks
- Finances & resources

The change process in settings (e.g., MCH service, schools)

Current systems

Systematic grounded processes with key leaders in the settings

Best practice systems

Mapping & how to get there
Australia investing in obesity prevention

- $870m investment over 6y
- Key objective tackling overweight and obesity,
  - healthy eating PA programs for adults and children
    - less than Australia spends on 2 statins every year
    - Still a big boost for prevention
- Victoria is taking a ‘systems-based’ approach
  - Prevention Community Model
  - 12 Prevention Areas (cluster RCT design)
  - Whole state ± ‘systems activation’
The Prevention Community Model

A new, comprehensive health promotion initiative targeting 14 local government areas

Including:
- 938 early childhood centres
- 520 schools
- 4,409 workplaces and
- over 1.3 million Victorians

Modelling a systems approach to chronic disease prevention from 1 May 2012

Slide courtesy of Victorian Department of Health
Preventive health effort – local prevention teams

State-wide System Effort

12 Prevention Areas (14 LGAs)

Communities/Towns

- Prevention Partnerships and Team Coordination
- Health Promoting Children
- Health Promoting Workplaces
- Communications
- Research and Evaluation

- Health Promotion Officers 1 per community/town

Dept of Health (Central Office and Regional Public Health Teams)
DEECD
DH funded research centres e.g. CEIPS
VicHealth
NGOs (eg Cancer Council, QUIT, CBRC, Diabetes Victoria, Heart Foundation)
WorkHealth
MAV
etc

“New Prevention Delivery Teams”

Slide courtesy of Victorian Department of Health
Feedback Loop

A

Physical Activity

B

Obesity
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Population

Demand FF

Access to Fast

Number of FF outlets

Pathway of food

Healthy Food Shops

Junk food a reward

Consumption of FF

Obesity
5. Paradigm: the way understand the problem
   – shift to a complex systems approach and solutions appropriate for complex problems

4. Goals: what is the system is trying to achieve
   – Set the optimal default to obesity preventing (e.g.)
   – Increasing physical activity, improve diet habits and the quality of the food supply.

3. Structure: variables, connections and networks - the system as a whole, e.g. connectivity and trust.
   – Feedback loops to policy makers, evidence informed decision making, use of natural experiments

2. Feedback and delays – this is about reinforcing and balancing loops
   – Reinforcing & balancing feedback loops

1. Structural elements: individual variables, actors and subsystems
   – Structural elements are the things we tend to think about regularly – physical education, marketing, affordable food etc.
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Carter et al., *NHMRC Centre for Research Excellence in Obesity Policy Research and Food Systems* 2012 - 2017
Key messages for community based intervention

- Community capacity is the “dose”
- Engagement across the full system
  - Leadership & governance
  - Information & intelligence
  - Workforce development
  - Partnerships & networks
  - Finances & resources
- Context specificity and local ownership
Australian experiences in community-based prevention

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Sources of funding support

Australian Heart Foundation Career Development Award
National Health and Medical Research Council
Australian National Preventive Health Agency
Australian Department of Health and Ageing
European Union EU7 fund
Victorian Department of Health
Australian Capital Territory Department of Health
Centre for Excellence in Intervention and Prevention Science
Session Outline

• A short history

• **Current work**
  • ACT
  • CO-OPS
  • CRE
  • ANPHA

• Where next?
ACT High Schools

• A whole of system approach to preventing obesity in ACT High Schools
  – 6 schools (3/3) 2012-2014
  – Adolescents 12-15
  – Adapted ANGELO process
  – System Building blocks
  – Adapted evaluation (to inc. systems shift)
<table>
<thead>
<tr>
<th>Actions</th>
<th>Description</th>
<th>Leadership</th>
<th>Information</th>
<th>Financing</th>
<th>Partnerships</th>
<th>Workforce</th>
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<tbody>
<tr>
<td>Policy</td>
<td>That at least 50% of food at school is ‘green’</td>
<td>Principal and school leadership to develop and drive policy</td>
<td>Canteen sales data</td>
<td>Release mandate to make profit for 3 months to assess viability</td>
<td>Nutrition Australia ACT Health ACT Education Canteen provider IYM Geelong</td>
<td>IYM School Co-ordinator Training of canteen manager and staff Role modeling of school teachers</td>
</tr>
<tr>
<td>Curriculum</td>
<td>Kids learn how to traffic light label foods and apply this to canteen</td>
<td>School curriculum committee</td>
<td>Provided in class to students</td>
<td>Teacher time to develop curriculum</td>
<td>National curriculum authority Nutrition Australia</td>
<td>Key teachers in each subject Canteen management</td>
</tr>
<tr>
<td>Social marketing</td>
<td>Newsletters and posters supporting the ‘green food’ school</td>
<td>IYM Co-ordinator Student Rep Council</td>
<td>Change in attitudes to green food % green foods posted on school web site</td>
<td>Support for printing posters Web site support</td>
<td>Other IYM schools Other ACT schools</td>
<td>Student/s or staff to produce article/flyer/s School web admin</td>
</tr>
<tr>
<td>Programs</td>
<td>Food at school program teaching healthy cooking and reading of food labels</td>
<td>Teacher/s to coordinate programs</td>
<td>Number provided and attendance</td>
<td>Equipment Teacher/ facilitator time</td>
<td>Church food provision Local s/markets</td>
<td>Students, volunteers, clubs, teachers, associations</td>
</tr>
<tr>
<td>Events</td>
<td>Healthy school challenge Nude food days</td>
<td>IYM Co-ordinator Student Rep Committee Parent and community committee</td>
<td>Amount of packaging used</td>
<td></td>
<td>Nutritional Australia etc.</td>
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</tbody>
</table>
US Tobacco consumption 1900 to 2000

Fig. 9.11  Tobacco consumption, 1900–2000
Sources: United States Department of Agriculture; United States Centers for Disease Control and Prevention.
Milestones in reducing smoking in Australia 1980–2007

- No bulls campaign
- Phase out smoking in federal workplaces
- Pack health labelling regulations introduced
- Male 18+
- Vic Tobacco Act
- NRT available for sale in Australia
- National Tobacco Campaign
- C/W implement tax by stick
- Smoking banned on domestic airlines
- Female 18+
- Tobacco banned in print media
- Smoking banned in council duty
- Age for sale of cigarettes 16 to 18
- Health warnings on packs
- Remaining tobacco sponsorship removed (exc. Significant international events)
- POS advertising bans
- Federal bans on tobacco sponsorship of sports & arts
- Gaming venue bans
- Smoketree dining

Source: The Cancer Council of Victoria 2009
We are long past the time that tobacco use is purely a matter of “individual choice” and its control dependent on a strategy of “one-person-at-a-time.”

- Tax policy
- School interventions
- Clean indoor air regulations
- Agricultural initiatives
- Advertising campaigns
- Medical care initiatives
- Community mobilization
- Political action
According to repeated nationwide surveys,

More Doctors Smoke CAMELS
than any other cigarette!

Doctors in every branch of medicine were asked, "What cigarette do you smoke?" The brand named most was Camel.

You'll enjoy Camel for the same reasons as many doctors enjoy them. Camel's have real, rich, tobacco, pack after pack, and a flavor unmatched by any other cigarette. Make this delicious non-filtered only Camel for your doctor and see how well Camel's will stay supple. Even though as you nearly smoke. You'll see why most doctors like Camel's.

The doctors' choice is America's choice!

For 30 days, test Camels in your "V-Zone" (V for Throat, V for Taste).
US Tobacco consumption 1900 to 2000

Fig. 9.11  Tobacco consumption, 1900–2000
Sources: United States Department of Agriculture; United States Centers for Disease Control and Prevention.

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Tobacco consumption and obesity future?

Fig. 9.11  Tobacco consumption, 1900–2000

Sources: United States Department of Agriculture; United States Centers for Disease Control and Prevention.
Long-term death rates

Moon et al., AIHW 2011; Allender et al 2011
Three generations of intervention

EFFICACY  EFFECTIVENESS  IMPLEMENTATION

RANDOMIZED CONTROLLED TRIALS  COMMUNITY DEMONSTRATION PROJECTS  SYSTEM BASED INTERVENTION

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